AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph [0033] with the following paragraph:

[0033] Referring now to FIG. 2, illustrated is further detail of the camera and lighting components. The light array in this embodiment includes 64 LEDs 142 (a lesser number being shown for simplicity of illustration) which provide a high-intensity source of on-axis illumination surrounding the camera lens 144, to ensure that maximum light is retro-reflected from the targets. It should be understood, however, that a lesser number of LEDs could be used so long as the intensity of the LEDs is sufficient to illuminate the targets so that a sufficient amount of light is retro-reflected from the targets.

Please replace paragraph [0038] with the following paragraph:

[0038] The target 150 includes multiple circular dots so as to ensure that sufficient data input may be captured by the camera even in the case that several of the target elements have been smudged by handling or are otherwise not fully detectable. In accordance with this embodiment, a well-defined target includes approximately 30 circular dots very accurately positioned (within 0.0002") with respect to each other. By way of specific example, the target illustrated in FIG. 3 ~~FIG. 2~~ might include 28 circular dots 152, each having an area one unit, very accurately positioned on a 12".times.12" grid, with four dots 154 having an area of 1.5 units, and a single dot 156 having an area of 2 units, strategically positioned within the array. The precise size and spacing of the dots is not critical provided that dots having a plurality of different area measurements are used, and the area measurements and relationship of the dots having different area measurements is known and stored in advance.

Please replace paragraph [0047] with the following paragraph:

[0047] In a single camera alignment system, view path 838L or 838R passes from pan-and-tilt mirror 846L or 846R through an aperture 850L or 850R in the wall of housing 848 and onto the respective wheels 822L and 824L or 822R and 824R. Shutters may be placed at locations 853L and 853R and/or an electronic shutter within video camera 830 may be synchronized with one or more strobed light sources to permit capture of an image only when a particular target or targets are illuminated. Alternatively, a shutter may be positioned at location 852L so that it may be operated to close aperture 850L thereby effectively blocking view path 838L and allowing video camera 830 to sight onto the right hand side of vehicle 820 only.

Please replace paragraphs [0052] through [0056] with the following paragraphs:

[0052] An alignment system of the type shown in FIG. 4 may be used to measure the distance traveled 716 and the angle of rotation ~~720~~ of each wheel 822L, 822R, 824L, and 824R as vehicle 820 is rolled from initial position ~~702~~ to final position ~~704~~.

[0053] Vehicle 820 is initially positioned on alignment rack 826 and targets 854 are attached to each wheel 822L, 822R, 824L, and 824R. The aligner takes images of each target 854 to determine an initial position ~~702~~ of each of the wheels 822L, 822R, 824L, and 824R. Computer 832 creates and stores values corresponding to the initial position ~~702~~ of each of the wheels 822L, 822R, 824L, and 824R.

[0054] Vehicle 820 is rolled from initial position ~~702~~ to final position ~~704~~. Once vehicle 820 has been rolled, the aligner takes images of each target 854 to determine a final position ~~704~~ of each of the wheels 822L, 822R, 824L, and 824R. Computer 832 creates and stores values

corresponding to the final position ~~704~~ of each of the wheels 822L, 822R, 824L, and 824R. The aligner may also prompt a technician to roll the vehicle and take position measurements by appropriate instructions or signals generated by computer 832.

[0055] The aligner processes the images of initial position ~~702~~ and final position ~~704~~ of each wheel 822L, 822R, 824L, and 824R to determine both the distance traveled ~~716~~ and the angle of rotation ~~720~~ of each wheel 822L, 822R, 824L, and 824R. Under control of software or electronics, values for the distance traveled 716 and the angle of rotation ~~720~~ are created and stored. Based on these two measurements, the aligner calculates the roll radius 606 of each wheel 822L, 822R, 824L, and 824R. A roll radius value is created and stored. The aligner then presents resulting values on display unit 834 for evaluation. The alignment technician can then use such results to help diagnose the condition of the vehicle and the wheels, including whether the wheels are properly matched, if there is excessive wear on any of the wheels, whether the wheels are properly inflated, and if there is unequal suspension loading.

[0056] In moving vehicle 820 from initial position ~~702~~ to final position ~~304~~, vehicle 820 is rolled a sufficient distance to provide for accurate measurements of the distance traveled ~~316~~ and the angle of rotation ~~720~~ of each of wheels 822L, 822R, 824L, and 824R. However, there are limits on how far vehicle 820 may be moved due to practical considerations such as keeping the vehicle on alignment rack 826. The minimum angle of rotation ~~320~~ through which vehicle 820 must be rolled is about 10 degrees. Furthermore, moving the vehicle such that the angle of rotation ~~320~~ is about 30 degrees provides accurate measurements while keeping vehicle 820 on alignment rack 826.

AMENDMENTS TO THE DRAWINGS:

Please replace Figs. 2 and 3 with the attached replacement Figs. 2 and 3.